

Phu Bia Mining Ltd: Ban Houayxai Gold-Silver Project

Certification Audit: International Cyanide Management Code - Gold Mining Operations Verification Protocol

Summary Audit Findings Report

March 2013





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INTERNATIONAL CYANIDE MANAGEMENT CODE





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SUMMARY AUDIT REPORT

Name of Mine

Ban Houayxai Gold-Silver Mine

Name of Mine Owner

Phu Bia Mining Ltd, A Member Of The PanAust Group Of Companies

Name of Mine Operator

Phu Bia Mining Ltd

Name of Responsible Manager

Ross Campbell, Process Manager

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LOCATION DETAIL AND DESCRIPTION OF OPERATION

The Ban Houayxai (BHX) Gold-Silver Operation is located in Laos approximately 120 km north of the capital Vientiane and about 25km west of the existing Phu Kham Copper-Gold Operation. Access to the mine site is via the sealed Vientiane-Vang Vieng road and a 38 km gravel road linking the mine site to a turn off at Ban Namone approximately 12km south of Vang Vieng.

Ban Houayxai Gold-Silver Mine Name of Mine

Signature of Lead Auditor

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The BHX Operation commenced production operations in April 2012 following a commissioning period from January 2012. First cyanide was delivered to BHX by road on 26 January 2012. BHX was certified by the ICMI under the Gold Mining Pre-Operational Verification Protocol on 18 January 2012. This detailed audit report provides the verification to support BHX certification to the Gold Mining Operational Verification Protocol.

BHX mine operations comprises an open pit mine feeding ore to a conventional Carbon In Leach (CIL) process plant. The operation is expected to produce, on average, over 100,000oz of gold and 700,000oz of silver per annum over a nine year mine life based on 2011 reserves.

The BHX Process Plant flow sheet includes primary crushing, SAG milling, pebble crushing, ball milling, gravity concentration, CIL, tails thickening and cyanide detoxification. Initial processing involves the treatment of oxide ore at throughput rates equivalent to 5.2 mtpa. Once oxide ores are exhausted throughput rates on harder transition and primary ores will be 4.0 mtpa.

The gravity circuit includes a gravity concentrator and an agitated leach tank for coarse gold extraction ahead of the CIL circuit. The CIL circuit consists of 6 tanks in series.

The associated carbon circuit has been constructed to recover 18 tonnes of carbon per day. Precious metal desorption is achieved using a dedicated AARL split acid wash and elution circuit. Barren carbon is regenerated utilizing a dedicated carbon regeneration kiln. The circuit is operated in a series of batch operations at a rate of one to two 9 tonne strips per day. Precious metal recovery is achieved using 7 electro winning cells in parallel. Gold and silver bearing sludge is filtered and oven dried prior to smelting.

Cyanide detoxification of thickened tailings slurry is achieved using the Air/SO_2 process. The detoxified tailings slurry is pumped via pipeline to the tailings storage facility at target of <0.5 mg/L WADCN. The tailings storage facility comprises of a valley impoundment where tailings and collected surface water is stored and released via a controlled overflow to the Nam Ngum 2 hydroelectric power reservoir.

The operation purchases solid sodium cyanide, shipped and transported to site from Australian Gold Reagents (AGR) manufacturing facility in Kwinana, Western Australia using transporters certified to the ICMI's transport code of practice under AGR's supply chain.

Ban Houayxai Gold-Silver Mine

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AUDITOR'S FINDING

This operation is:

☑ in full compliance

☐ in substantial compliance

□ not in compliance

with the International Cyanide Management Code Gold Mine Operations Verification Protocol.

Audit Company

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Audit Team Leader

John Miragliotta (john.miragliotta@sustainability.net.au)

Names and Signatures of Other Auditors

R John McKenna

6 January 2013

Date(s) of Audit

Inclusive of the period from 12-14 November 2012.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

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I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Gold Mine Operations and using standard and accepted practices for health, safety and environmental audits.

Ban Houayxai Gold-Silver Mine Name of Mine

Signature of Lead Auditor

Date

6 January 2013

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PRINCIPLE 1 – PRODUCTION

Encourage responsible cyanide manufacturing by purchasing from manufacturers who operate in a safe and environmentally protective manner.

Standard of Practice 1.1

Purchase cyanide from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 1.1
	$\hfill\square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with standard of Practice 1.1, requiring the operation purchase cyanide from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide and to prevent releases of cyanide to the environment.

BHX purchases its sodium cyanide from Australian Gold Reagents' (AGR's) Kwinana Western Australia manufacturing facility under a supply agreement dated 13 October 2011 which requires that supplied cyanide is manufactured at a facility certified under the Code.

Records are maintained by BHX to verify that each delivery of sodium cyanide is sourced from AGR's ICMC certified (current certification dated 24 November 2010) cyanide manufacturing facility in Kwinana Western Australia.



PRINCIPLE 2 – TRANSPORTATION

Protect communities and the environment during cyanide transport.

Standard of Practice 2.1

Establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

☑ in full compliance with
 The operation is
 ☐ in substantial compliance with
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with the Standard of Practice 2.1 requiring that the operation establishes clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

BHX has entered into a written supply agreement of 13 October 2011, with AGR, which specifies the responsibility for AGR to use ICMC certified supply chains for the delivery of solid sodium cyanide to the BHX mine and which clearly identifies the responsibilities of each party in regards to safety, security, release prevention, training and emergency response.

Standard of Practice 2.2

Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

☑ in full compliance with
 The operation is
 ☐ in substantial compliance with
 ☐ standard of Practice 2.2
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 2.2 requiring that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

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The cyanide supply agreement between BHX and AGR, dated 13 October 2011, requires that the delivery of solid sodium cyanide to BHX will use the following ICMC certified supply chains:

- AGR's WA Supply Chain from Kwinana to Port of Fremantle
- AGR's Ocean Freight Supply Chain from Fremantle to Laem Chabang in Thailand
- Pioneer's supply chain from Laem Chabang to the BHX mine in Laos using Nanon Inter-freight.



PRINCIPLE 3 - HANDLING AND STORAGE

Protect workers and the environment during cyanide handling and storage.

Standard of Practice 3.1

Design and construct unloading, storage and mixing facilities consistent with sound, accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

	oxdot in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 3.1
	☐ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 3.1 requiring that unloading, storage and mixing facilities are designed and constructed with sound, accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

BHX operational facilities have been designed and constructed in accordance with engineering design criteria, which specify ICMC compliance, internationally accepted engineering standards and statutory obligations. BHX has engaged appropriately qualified personnel to verify compliance with the design criteria and has maintained records of its quality control programme implemented throughout the construction and commissioning phase of the project.

Cyanide unloading storage and mixing facilities are located within a secure facility, with appropriate access control and at a safe distance from other work areas and surface water. The cyanide unloading, mixing and storage shed areas are contained within low permeability concrete floors which are drained to collection sumps. The cyanide mixing tank and liquid storage tanks have adequate and appropriate secondary containment to prevent loss of cyanide solution. The mixing and storage tanks have instrumentation and alarms to prevent overtopping. The solid sodium cyanide storage shed is designed to keep contents dry with adequate security, ventilation and separation from incompatible chemicals. Used cyanide boxes are destroyed and disposed of onsite to prevent reuse and in a manner that protects the environment.

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Standard of Practice 3.2

Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 3.2
	$\ \square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 3.2 requiring that unloading, storage and mixing facilities are operated using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

BHX has developed and implemented Standard Operating Procedures (SOPs) to prevent exposures and releases during cyanide unloading and mixing activities, and implemented procedures to respond to spills. These procedures include instructions which have been implemented for the safe disposal of used solid sodium cyanide boxes to prevent reuse and to protect the environment. Written procedures are implemented for the safe unloading of solid sodium cyanide from shipping containers delivered by truck to BHX which are then unloaded to the cyanide storage shed in a manner that minimises potential for accidental release of cyanide material or exposure of personnel to HCN gas.

BHX operating procedures have been implemented to ensure that any spilled cyanide material during unloading and mixing is cleaned up immediately to recover spilled reagent. Workers involved in these activities are required to be wearing appropriate protective equipment and ensure that an observer is in place at a safe distance during the unloading and mixing tasks.



PRINCIPLE 4 – OPERATIONS

Manage cyanide process solutions and waste streams to protect human health and the environment.

Standard of Practice 4.1

Implement management and operating systems designed to protect human health and the environment utilizing contingency planning and inspection and preventive maintenance procedures.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 4.1
	$\ \square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.1 requiring management and operating systems designed to protect human health and the environment are implemented and include contingency planning and inspection and preventive maintenance procedures.

BHX has developed and implemented a Cyanide Management Plan that describes the operation and management of cyanide facilities to prevent harmful exposure and to prevent release of cyanide to the environment. The Cyanide Management Plan and the relevant procedures and manuals are reviewed at least annually.

The cyanide facilities have been constructed to allow for contingencies based on design assumptions which have been implemented through the design criteria. The constructed facilities have been verified as compliant with the design criteria through documented formal engineering validation processes. Change management processes have been implemented by BHX for operational, process or equipment changes and identify changes that may result in potential for release of cyanide.

The operation has implemented programmed maintenance systems and inspections necessary to ensure the safe and environmentally sound operations. The key plans are described in the Cyanide Management Plan and include the Tailings Storage Facility (TSF) Operating Manual, the Cyanide Detox Operating Manual and the Carbon in Leach (CIL) Operating Manual.

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Name of Mine



Standard of Practice 4.2

Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

☑ in full compliance with
 The operation is
 ☐ in substantial compliance with
 ☐ standard of Practice 4.2
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.2 requiring management and operating systems be introduced to minimise cyanide use, thereby limiting concentrations of cyanide in mill tailings.

BHX has determined the optimum cyanide use required for processing through completion of metallurgical testing programs during feasibility studies, and has applied these cyanide addition rates through a cyanide dosing strategy which uses automatic dosing and online cyanide monitoring to maintain optimised addition rates. A future ore testing programme is in place to identify changes in cyanide consumption requirements.

Standard of Practice 4.3

Implement a comprehensive water management program to protect against unintentional releases.

☑ in full compliance with
 The operation is
 ☐ in substantial compliance with
 ☐ standard of Practice 4.3
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.3 requiring a comprehensive water management program be implemented to protect against unintentional releases.

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The BHX operation's tailings facility is designed to overflow to the environment and is managed to maintain WADCN concentrations of less than 0.5 mg/L within the tailings dam. A comprehensive probabilistic water balance has been developed by suitably qualified consultants for the operations of the TSF and the process plant surface water pond (Event Pond) with the objective of managing water levels to meet design objectives. The water balance for the TSF is primarily used to manage the facility integrity as cyanide concentrations are controlled to allow direct discharge from the facility without exceeding water quality criteria.

BHX has developed and implemented strategies for operational water management and process event pond management to ensure that the risk of discharge of contaminated storm water is minimised. The procedure includes a review of the probabilistic water balance data to optimise these parameters on an on-going basis.

Standard of Practice 4.4

Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 4.4
	☐ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.4 requiring measures be implemented to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

The plant event pond and the tailings storage facility are managed to ensure no open water exceeds 50 mg/L WADCN and that birds and other wildlife are protected from the adverse effects of cyanide. The TSF is managed through treatment of tailings at the cyanide detoxification plant. BHX has online monitoring of the tailings discharge to the TSF to ensure that cyanide concentrations are maintained <0.5 mg/L WADCN which is sufficient to protect birds and other wildlife.

J.A.



The Event Pond is only used for emergency surface water collection at the process plant during extreme rainfall events or loss of secondary containment and is managed and designed to ensure that any contaminated run off is contained within the facility. The operating procedures for the event pond require that any material collected in the pond that may contain cyanide is pumped directly to the tailings thickener or to the detoxification plant.

Standard of Practice 4.5

Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

☑ in full compliance with
 The operation is ☐ in substantial compliance with Standard of Practice 4.5
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.5 requiring measures be implemented to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

The BHX TSF is designed to discharge to surface water and is managed to ensure that the discharge overflow water quality is maintained within the operational criteria of <0.5 mg/L WADCN. Solution samples are taken and analysed on a daily basis from the TSF and the TSF spillway during discharge to verify compliance with the discharge criteria. The permits and approvals granted for the operations have established a mixing zone downstream of the TSF overflow. A compliance monitoring point has been established downstream of the mixing zone and monitoring and analysis has verified that the discharge has not resulted in free cyanide concentrations in excess of 0.022mg/L downstream of the mixing zone.

The surface water event pond at the process plant has a designed emergency overflow which may overflow in extreme events only. Monitoring of the Event Pond occurs regularly and no cyanide containing material has been recorded within this pond to date. There are no identified indirect sources of discharge of cyanide to surface waters at BHX.

Standard of Practice 4.6

Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water.

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☐ in full compliance with

The operation is ☐ in substantial compliance with ☐ Standard of Practice 4.6

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.6 requiring measures be implemented to manage seepage from cyanide facilities to protect the beneficial uses of ground water.

There are no identified beneficial users of groundwater in the vicinity of the BHX operations. The site is surrounded by the Nam Ngum 2 water reservoir and it is likely that any groundwater beneath the BHX plant site would eventually discharge to the reservoir. BHX has designed and constructed the facilities to prevent seepage of cyanide containing materials to groundwater through primary, secondary and tertiary containment facilities. Nevertheless, BHX monitors for seepage from the TSF and process plant at monitoring bores in the vicinity of these locations. The monitoring verifies that there is no indication of groundwater contamination from seepage to groundwater from cyanide facilities.

Standard of Practice 4.7

Provide spill prevention or containment measures for process tanks and pipeline

☑ in full compliance with
 The operation is ☐ in substantial compliance with Standard of Practice 4.7
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.7 requiring spill prevention or containment measures be provided for process tanks and pipelines.

Concrete secondary containment is in place for all cyanide unloading, storage, mixing and process solution tanks. The secondary containment includes collection sumps and pumps for removing spilled material.

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Post construction testing demonstrates that concrete secondary containment meets the minimum design criteria established to ensure seepage to subsurface is minimised. Secondary containment has been designed and constructed in accordance with specified design criteria. The secondary containment volumes for cyanide mixing, storage, thickener and process tanks are sized to hold 110% of the volume of the largest tank within the containment areas and consider any piping draining back to the area and allow additional capacity for the design storm event (1 in 100 year event).

Operational manuals and procedures for process areas are developed and implemented to ensure no discharge of cyanide containing process liquor outside of secondary containments.

All pipelines that convey cyanide process solution have spill containment measures that direct spills to secondary containment areas and collection sumps, or; have adequate control measures in place to drain spills to a collection point for clean-up in accordance with spill response procedures. All cyanide containing pipelines have been evaluated for adequacy of protection measures through a range of risk assessments and HAZOP studies.

Cyanide tanks and pipelines are constructed of materials compatible with cyanide and alkaline pH conditions.

Standard of Practice 4.8

Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 4.8
	$\ \square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.8 requiring quality control/quality assurance procedures be implemented to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

BHX operational facilities have been designed and constructed in accordance with the engineering design criteria and accepted standards which include ICMI code compliance. Appropriately qualified personnel have verified that the operation's cyanide facilities comply with the design criteria. Quality control and assurance programs have been adopted during the construction and commissioning phases at BHX.

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Standard of Practice 4.9

Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and ground water quality.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 4.9
	☐ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 4.9 requiring monitoring programs be implemented to evaluate the effects of cyanide use on wildlife and surface and ground water quality.

The environmental and process monitoring programmes at BHX include a comprehensive, documented and systematic program to evaluate the effectiveness of cyanide management controls and the effects of cyanide use on the environment. BHX developed standard procedures for cyanide monitoring activities including surface and groundwater sampling, laboratory analysis, sample dispatch, quality control and chain of custody. Monitoring includes wildlife observations in the vicinity of cyanide facilities and the tailings storage facility.



PRINCIPLE 5 - DECOMMISSIONING

Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities.

Standard of Practice 5.1

Plan and implement procedures for effective decommissioning of the cyanide facilities to protect human health, wildlife and livestock.

☑ in full compliance with
 The operation is ☐ in substantial compliance with Standard of Practice 5.1
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 5.1 requiring procedures for effective decommissioning of the cyanide facilities be implemented to protect human health, wildlife and livestock.

BHX has developed a Cyanide Closure Plan which outlines the requirements and schedule of activities for decommissioning of cyanide facilities during short term, temporary as well as permanent closure scenarios in a manner that protects human health, wildlife and livestock. The Cyanide Closure Plan includes actions to: draw down cyanide stocks; decontaminate equipment; manage water in the tailings facility; treat contaminated material using the detoxification plant; monitor surface and groundwater, and; undertake contaminated site assessment.

The operation has committed to reviewing its cyanide closure plan every 3 years.

Standard of Practice 5.2

Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 5.2
	$\ \square$ not in compliance with	

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Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 5.2 requiring an assurance mechanism be established capable of fully funding cyanide related decommissioning activities.

BHX has engaged a suitably qualified consultant to complete a cost estimate of cyanide closure activities as required in the Cyanide Closure Plan. The cost estimate is for a third party implementation of the closure plan and will be reviewed every three years.

The BHX mine has self-insurance in place through financial provisions for mine closure costs, including cyanide decommissioning costs. These provisions have been subject to independent financial audit.



PRINCIPLE 6 – WORKER SAFETY

Protect workers' health and safety from exposure to cyanide.

Standard of Practice 6.1

Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.

☑ in full compliance with
 The operation is ☐ in substantial compliance with ☐ Standard of Practice 6.1
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 6.1 requiring potential cyanide exposure scenarios be identified and measures taken as necessary to eliminate, reduce and control them.

The operation has developed a series of procedures describing how cyanide-related tasks such as unloading, mixing, plant operations, entry into confined spaces and equipment decontamination prior to maintenance should be conducted to minimise worker exposure. BHX use Job Safety Analysis (JSA) prior to undertaking maintenance activities to ensure worker safety issues associated with potential cyanide exposure are identified and the correct equipment and PPE is available.

The operation has a change management standard that outlines the process to be followed to assess the potential impacts on worker health and safety from changes to equipment or operations.

BHX has conducted a range of team based risk assessments and HAZOP's, which involve workforce personnel, in relation to worker health and safety for all cyanide-related tasks, including maintenance of cyanide equipment and facilities on the mine site to formally identify where significant potential for exposure to cyanide can occur.

Standard of Practice 6.2

Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

☑ in full compliance with

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The operation is $\ \square$ in substantial compliance with $\ \square$ Standard of Practice 6.2 $\ \square$ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 6.2 requiring cyanide facilities are operated and monitored to protect worker health and safety and the effectiveness of the health and safety measures are periodically evaluated.

BHX Conducts pH-buffering tests to determine the appropriate pH for limiting the evolution of HCN gas during processing activities. BHX typically operates the CIL with pH values in excess of 10.

The operation has identified areas where the potential exists for cyanide exposure and uses fixed ambient and personal monitors, which are regularly calibrated, to verify that operational controls are adequate to prevent harmful exposure of cyanide to workers. BHX completes weekly air quality surveys throughout the process plant to ensure that monitors and controls are adequate.

Warning signs, safety showers, MSDS and fire extinguishers are located in appropriate areas as identified through HAZOPs, risk assessments and weekly air quality surveys. BHX has implemented incident notification, reporting and investigation procedures that are used for all incidents of cyanide exposure or potential exposure, to verify the adequacy worker safety controls following incidents.

Standard of Practice 6.3

Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 6.3
	$\ \square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 6.3 requiring emergency response plans and procedures be developed and implemented to respond to worker exposure to cyanide.

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The operation has developed and implemented cyanide emergency response plans for a range of potential emergency cyanide exposure and release scenarios that were identified from risk assessments. Emergency response plans are tested periodically to ensure workers are familiar with response actions. BHX maintains emergency response equipment, including first aid equipment at appropriate locations as determined through team based risk assessments, HAZOPS and surveys. Workers in the process plant are able to raise an alarm immediately through radios, telephones and area alarms.

A medical clinic has been established at BHX with continuous staffing by appropriately trained medical personnel to respond to cyanide exposure incidents. The BHX cyanide emergency response planning includes contingencies for medical evacuation where necessary to hospitals in Laos and Thailand which have been identified and assessed by BHX as suitable to respond to cyanide incidents.



PRINCIPLE 7 – EMERGENCY RESPONSE

Protect communities and the environment through the development of emergency response strategies and capabilities.

Standard of Practice 7.1

Prepare detailed emergency response plans for potential cyanide releases.			
	$\ensuremath{\square}$ in full compliance with		
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 7.1	
	$\hfill\square$ not in compliance with		

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 7.1 requiring detailed emergency response plans are prepared for potential cyanide releases.

The BHX Cyanide Emergency Response Plan has been developed to address potential cyanide releases. The emergency response scenarios have been identified from review of the processes and activities associated with cyanide delivery, handling, storage and use at BHX. The Plan refers to the certified cyanide transporter's (Pioneer) Emergency Response Plan for transport related accidents to ensure an integration of emergency response planning between BHX and the transporter. BHX has, through is emergency planning, considered evacuation, first aid and medical treatment requirements for each identified emergency scenario.

Standard of Practice 7.2

Involve site perso	onnel and stak	eholders in t	the plann	ing process.
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	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 7.2
	□ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 7.2 requiring the involvement of site personnel and stakeholders in the planning process.

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The BHX Cyanide Emergency Response Plan includes discussion of cyanide awareness programs with local communities; emergency contact numbers and regular contact with communities. The cyanide awareness community presentations include emergency response planning issues and comments are sought from local communities on these issues for input to the emergency planning process. BHX workers have input to emergency response planning through participation in HAZOPS, risk assessments and through regular emergency drills and debrief sessions. Cyanide emergency planning has also included input from BHX's cyanide manufacturer, transporters and external emergency responders, including identified evacuation hospitals.

Standard of Practice 7.3

Designate appropriate personnel and commit necessary equipment and resources for emergency response.

	oxdim I in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 7.3
	☐ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 7.3 requiring appropriate personnel are designated and the necessary equipment and resources are committed for emergency response.

The BHX Cyanide Emergency Response Plan designates primary and alternate emergency response coordinators and lists the key on site personnel who will be contacted during a cyanide emergency. The duties, authorities and responsibilities of the BHX Emergency Response Team, management, coordinators and external response organisations are described in the planning documents.

The BHX Cyanide Emergency Response Plan provides details of emergency response and first aid equipment requirements, location and maintenance requirements. Training of personnel is included as well as regular liaison with external emergency response providers, authorities and community stakeholders and participation of these groups in emergency response drills.

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Standard of Practice 7.4

Develop procedure	es for internal and external emergency	notification and reporting.
	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 7.4
	$\ \square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 7.4 requiring procedures are developed for internal and external emergency notification and reporting.

The Cyanide Emergency Response Plan includes the contact information for notifying management, regulatory agencies, outside response providers and medical facilities and communicating with the media as required through BHX's external communication processes.

Standard of Practice 7.5

Incorporate into response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

☑ in full compliance with
 The operation is
 ☐ in substantial compliance with
 ☐ standard of Practice 7.5
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 7.5 requiring response plans and remediation measures are incorporated into monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

BHX incorporates into its Cyanide Emergency Response Plan monitoring elements and remediation measures that account for the additional hazards of using cyanide treatment chemicals by:

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- Describing the environmental considerations for emergencies within the Cyanide Emergency Response Plan as well as in the appropriate emergency response flow charts. The considerations include chemical spills, tailings releases and cyanide spills, including the adverse impacts of ferrous sulphate in waterways and that this should be avoided when handling environmental emergencies.
- Describing the requirements for environmental sampling/monitoring and reporting in the Plan.

Standard of Practice 7.6

Periodically evaluate response procedures and capabilities and revise them as needed.

☑ in full compliance with
 The operation is ☐ in substantial compliance with Standard of Practice 7.6
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 7.6 requiring response procedures and capabilities are periodically evaluated and revised as needed.

The BHX Cyanide Emergency Response Plan is reviewed annually and following an emergency incident or mock drills which require changes in response to identified deficiencies. Mock emergency drills have been conducted regularly and debriefs are conducted after all mock drills to identify and act upon deficiencies.



PRINCIPLE 8 – TRAINING

Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

Standard of Practice 8.1

Train workers to understand the hazards associated with cyanide use.				
	☐ in full compliance with			
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 8.1		
	$\hfill\square$ not in compliance with			

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 8.1 requiring workers are trained to understand the hazards associated with cyanide use.

BHX trains its workforce and contractors on the identification of cyanide hazards, use of appropriate PPE, first aid and emergency response through general and specific inductions relevant to various work areas. The process department at BHX prohibits access to cyanide facilities unless the specific Cyanide Induction programme is completed. Inductions are valid for 12 months and records are maintained for all training completed by BHX personnel and contractors.

Standard of Practice 8.2

Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 8.2
	$\ \square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 8.2 requiring appropriate personnel are trained to operate the facility according to systems and procedures that protect human health, the community and the environment.

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The Process Department has developed a structured training program that ensures workers are trained in their normal production and maintenance tasks to prevent unplanned cyanide releases.

A training needs analysis detailing the competencies required for each area within the plant and each operational level has been established. The elements required for each level are based on operating procedures. A competency based assessment process has been developed for each relevant operating procedure and trainers and assessors are appropriately qualified.

Standard of Practice 8.3

Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 8.3
	$\ \square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 8.3 requiring appropriate workers and personnel are trained to respond to worker exposures and environmental releases of cyanide.

All BHX process plant workers are provided with specific training against operating procedures for those tasks carried that may result in cyanide exposure or release. Area and task specific training are also available for maintenance, warehouse and mining personnel who are involved in cyanide related work activities and for those who may be required to respond to a cyanide emergency. Emergency response training is carried out for the emergency response team and relevant process personnel in regards to spill response, clean up, decontamination and first aid. Training plans are developed to ensure personnel have current training completed, including refresher training, and records are maintained within a training management system. External organisations and communities who may be involved in a cyanide emergency response and who are identified in emergency response planning are provided with appropriate level of awareness training for use of equipment, first aid and cyanide hazard recognition by BHX. Mock emergency drills have been conducted regularly and debriefs are conducted after all mock drills to identify and act upon deficiencies.

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PRINCIPLE 9 – DIALOGUE

Engage in public consultation and disclosure.

Standard of Practice 9.1

Provide stakeholde	ers the opportunity to communicate is:	sues of concern.	
	☑ in full compliance with		
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 9.1	
	$\hfill\square$ not in compliance with		

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 9.1 requiring stakeholders are provided the opportunity to communicate issues of concern.

BHX has developed procedures and forms and has implemented processes for stakeholder communication of issues of concern which may include cyanide issues during operations. Naiban (Chief of village) meetings are scheduled on regular intervals with all affected communities and; notices boards and communication boxes are in place in all seven villages within the identified project potential impact area to allow communication of cyanide and other issues of potential concern. BHX has implemented a grievance process to ensure that stakeholder concerns and questions are responded to.

Standard of Practice 9.2

Initiate	dialogue	describing	cyanide	management	procedures	and	responsively	address
identifie	d concern	S.						
		☑ in full	complian	ce with				

The operation is ☐ in substantial compliance with Standard of Practice 9.2 ☐ not in compliance with

Mine

Ban Houayxai Gold-Silver Mine Name of Mine

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Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 9.2 requiring dialogue is initiated describing cyanide management procedures and responsively address identified concerns.

BHX provides an annual community cyanide awareness program (via Hazardous Chemical Awareness) to local villages through verbal and written communications in local language. Procedures are maintained for communication of cyanide management at BHX to community and government stakeholders.

Standard of Practice 9.3

Make appropriate operational and environmental information regarding cyanide available to stakeholders.

	☑ in full compliance with	
The operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 9.3
	☐ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

BHX is in FULL COMPLIANCE with Standard of Practice 9.3 requiring appropriate operational and environmental information regarding cyanide is made available to stakeholders.

BHX maintains procedures for communication of cyanide related management issues, incidents and emergency response to relevant stakeholders and community members. These procedures require that communication and reporting of cyanide exposure or release events are communicated by the site personnel to the PBM Country Affairs personnel who then report to relevant community, government and other stakeholders as identified in procedures and plans.